

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

City of Santa Clara

Project Mo. 3190-001

ORDER ISSUING NEW LICENSE (MAJOR)

(Issued May 5, 1983)

The City of Santa Clara (Applicant) filed on September 30, 1981, an application for a license under Part I of the Federal Power Act (Act), for the construction, operation and maintenance of the Black Butte Hydroelectric Project No. 3190. 1/ The project would be located at the existing Corps of Engineers' (Corps) Black Butte Dam on Stony Creek in Tehama County, California. The proposed project would consist of an intake structure, a penstock, a powerhouse containing two generating units with a combined rated capacity of 6,800 kW, a reregulating dam, and a 1,500-foot-long, 12-kV transmission line connecting the project with the existing Pacific Gas and Electric Company's 12-kV line downstream of the project. 2/_

Notice of the application has been published and consents have been received from interested federal, state and local agencies. None of the commenting agencies objected to the issuance of the license. No protests or petitions to intervene have been filed.

Safety and Adequacy

The project structures covered by this license are not water impoundment structures. Black Butte Dam and Reservoir are federal facilities and are not subject to the Commission's licensing jurisdiction. The proposed project structures would be safe and adequate if constructed in accordance with accepted engineering practices and construction procedures.

1/ Authority to act on this matter is delegated to the Director, Office of Electric Power Regulation, under §375.308 of the Commission's regulations, 18 C.F.R. §375.308 (1982), FERC Statutes and Regulations ¶30,238. This order may be appealed to the Commission by any party within 30 days of its issuance pursuant to Rule 1902, 18 C.F.R. §385.1902, FERC Statutes and Regulations ¶29,052, 47 Fed. Reg. 19014 (1982). Filing an appeal and final Commission action on that appeal are prerequisites for filing an application for rehearing as provided in Section 313(a) of the Act. Piling an appeal does not operate as a stay of the effective date of this order or of any other date specified in this order, except as specifically directed by the Commission.

2/ A more detailed description of the project works is contained in ordering paragraph (B).

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CITY OF SANTA CLARA
ELECTRIC DEPARTMENTEconomic Feasibility

By letter filed May 28, 1982 the Resources Agency of California questioned the Applicant's estimate of the project's energy potential. Staff conducted an independent analysis and found that construction and operation of the project would be economically feasible.^{3/} Its analysis utilized average daily reservoir releases (not inflows to the reservoir as estimated by the Resources Agency) and assumed a shut down period of approximately 46.5 percent (in contrast to the Resources Agency's estimate of 41.67 percent). Based on the energy purchase rates for small power producers as published by the California Public Utilities Commission on November 12, 1981, the project is economically feasible.

Reservoir Fishery Habitat

The California Department of Fish and Game (CDFG) proposed that suitable rocky material from the penstock tunnel excavation should be used to create fish habitat in the project reservoir. The Applicant stated that the planning and development of fish habitat in the reservoir is the responsibility of the Corps. Applicant is, however, willing to cooperate with the Corps should they express a desire to use the excavated material.

The Applicant should consult with the Corps and the CDFG on the need for fishery habitat enhancement in the project reservoir. If the need exists, clean rocky material, devoid of fines, should be placed at selected reservoir sites to provide additional habitat for fish and as substrate for fish food organisms. Article 33 of the license requires the Licensee to consult with the Corps and CDFG on this fishery enhancement measure.

ENVIRONMENTAL IMPACTS

The project would utilize an existing dam and would generate power as an incidental use of water released for irrigation and flood control purposes. During modification of the existing facilities, the water quality of the project area would be temporarily degraded through increased turbidity and sedimentation from run-off from exposed soils and construction of the reregulating dam. During project operation, no long-term adverse impacts to the reservoir, downstream water quality, or fishery resources are foreseen. On the basis of

3/ The proposed project, with its average annual generation of 16.9 million kWh, will utilize a renewable resource that will save the equivalent of approximately 28,000 barrels of oil or 7,800 tons of coal per year.

the record and Staff's independent analysis, it is concluded that issuance of a license for the project will not constitute a major Federal action significantly affecting the quality of the human environment.

Comprehensive Development

The proposed project would not be in conflict with any existing or proposed water resource development in the Stony Creek Basin. It would make good use of the head and flow releases from the Black Butte Dam and would not change the operational procedures and flow requirements for irrigation. Accordingly, it is concluded that the proposed project would be best adapted to the comprehensive development of the river basin upon compliance with the terms and conditions of this license.

Annual Charges

Section 10(e) of the Act 4/ requires the Commission to fix a reasonable annual charge to be paid to the United States for the use of a government dam.

The Commission has issued on March 31, 1983, a proposed rulemaking, RM 83-13-000, reassessing comprehensively the subject of suitable annual charges for use of government dams and other facilities, for the purpose of making recommendations to the Commission for any appropriate changes in its policies and regulations. Consequently, a final determination of the annual charges for the use of these Federal facilities will be reserved. Article 38(b) provides for a future determination of the annual charge.

No headwater benefit payments will be assessed at this time although two federal projects lie upstream of the Project No. 3190. Customarily headwater benefit investigations are undertaken only after a project has commenced operation. Standard Article 11 reserves the Commission's right to make such a determination.

It is ordered that:

(A) This license is issued to the City of Santa Clara (Licensee), California, under Part I of the Federal Power Act (Act), for 50 years, effective the first day of the month in which this license is issued, for the construction, operation and maintenance of the Black Butte Hydroelectric Project No. 3190, located at the United States Corps of Engineers' Black Butte Dam on Stony Creek in Tehama County, California, using a government dam and affecting lands of the United States.

4/ 16 U.S.C. Section 803(e).

This license is subject to the terms and conditions of the Act, which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the Act.

(B) The Black Butte Project No. 3190 consists of:

(1) All lands, to the extent of the Licensee's interest in those lands, constituting the project area and enclosed by the project boundary. The project area and boundary are shown and described by a certain exhibit that forms part of the application for license and that is designated and described as:

EXHIBIT	FERC NO. 3190-	SHOWING
G	6	Project Boundary

(2) Project works consisting of: (a) an intake structure within the Black Butte Reservoir near the southern abutment of the Black Butte Dam; (b) a 12.5-foot diameter, 1,000-foot long penstock tunnel through the southern abutment of the dam; (c) a powerhouse containing two generating units with a combined installed capacity of 6,800 kW, located 350 feet downstream of the outlet works of the dam; (d) a switchyard adjacent to the north side of the powerhouse; (e) a 6-foot-high reregulating dam, approximately 300 feet downstream of the powerhouse; (f) a 400-foot-long canal diverting irrigation water into South Side Canal; (g) a 1,500-foot-long, 12-kV transmission line connecting the powerhouse with the Pacific Gas and Electric Company's 12-kV line downstream of the powerhouse; and (h) appurtenant facilities.

The location, nature, and character of these project works are generally shown and described by the exhibit cited above and more specifically shown and described by certain other exhibits that also form a part of the application for license and that are designated and described as:

Exhibit A - Description of Project, paragraphs entitled "Turbines" and "Generators and Switchyard" on page A-2 and paragraph entitled "Transmission Facilities" on pages A-3 and A-4; and

EXHIBIT	FERC NO. 3190-	SHOWING
F-1	2	Project Works Plan
F-2	3	Powerhouse and Power Tunnel
F-3	4	Power Tunnel Intake, Gatehouse, and Re-Regulating Dam Section

F-4

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Diversion Canal
Control Structures

(3) All structures, fixtures, equipment, or facilities used or useful in the operation or maintenance of the project and located within the project boundary, all portable property that may be employed in connection with the project, located within or outside the project boundary, as approved by the Commission, and all riparian or other rights that are necessary or appropriate in the operation or maintenance of the project.

(C) Exhibits A, F, and G designated in Ordering Paragraph (B) above, are approved and made a part of the license only to the extent that they show the general location, description, nature, etc. of the project works.

(D) This license is also subject to Articles 1 through 32, inclusive, set forth in Form L-2 (revised October, 1975) entitled "Terms and Conditions of License for Unconstructed Major Project Affecting Lands of the United States" attached to and made a part of this license. The license is also subject to the following additional articles.

Article 33. Licensee, in cooperation with the U.S. Army Corps of Engineers and the California Department of Fish and Game, shall determine the need and feasibility of placement of excavated rock material at selected reservoir sites to enhance fish habitat in Black Butte Reservoir. If the cooperating agencies agree that habitat enhancement is both needed and feasible, Licensee shall file for Commission approval, at least 60 days prior to start of construction, a reservoir fishery habitat enhancement plan. The plan shall contain evidence of consultation with the cooperating agencies. Copies of the plan as filed with the Commission shall also be sent to the agencies.

Article 34. The Licensee shall within 90 days of completion of construction file for approval in accordance with the Commission's Rules and Regulations revised Exhibits F and G drawings and the equipment description portion of Exhibit A showing the project as-built.

Article 35. The Licensee shall review and approve the design of contractor-designed cofferdams and deep excavations prior to the start of construction and shall ensure that construction of cofferdams and deep excavations are consistent with the approved design. At least 30 days prior to start of construction of the cofferdam, the Licensee shall file with the Commission's Regional Engineer and the Director, Office of Electric Power Regulation, and the Corps of Engineers one copy

of the approved cofferdam construction drawings and specifications and a copy of the letter(s) of approval.

Article 36. The Licensee shall file with the Commission's Regional Engineer in San Francisco, California, and the Director, Office of Electric Power Regulation, one copy each of the contract drawings and specifications for pertinent features of the project additions, such as water retention structures, powerhouse and water conveyance structures, at least 60 days prior to the start of construction. The Director, Office of Electric Power Regulation may require changes in the plans and specifications to assure a safe and adequate project.

Article 37. The Licensee shall commence construction of the project within two years from the effective date of the license and shall thereafter in good faith and with due diligence prosecute such construction and shall complete construction of such project works within five years from the effective date of the license.

Article 38. The Licensee shall pay to the United States the following annual charges:

(a) for the purpose of reimbursing the United States for the cost of administration of Part I of the Act, a reasonable amount as determined in accordance with the provisions of the Commission's regulations in effect from time to time. The authorized installed capacity for that purpose is 9,100 horsepower.

(b) for the purpose of recompensing the United States for utilization of surplus water or water power from the Black Butte Dam, an amount to be hereafter determined by the Commission.

Article 39. The design and construction of only those facilities that would be an integral part of, or that could affect the structural integrity of the Black Butte Dam shall be done in consultation with and subject to the review and approval of the Chief, Engineering Division, U.S. Army Corps of Engineers, Sacramento, California. The Commission reserves the right to resolve any disagreement between the Licensee and the U.S. Army Corps of Engineers.

Article 40. The Licensee shall enter into an agreement to coordinate their plans with the Corps of Engineers (Corps) for access to and site activities on lands and property administered by Corps so that the authorized purposes, including operation of the Federal facilities, are protected. In general, the agreement shall not be redundant with the Commission's requirements contained in this license and shall

identify the facility, and the study and construction activities, as applicable, and terms and conditions under which studies and construction will be conducted. The agreement shall be mainly composed of the following items:

(1) reasonable arrangements for access to the Corps site to conduct studies and construction activities, such access rights to be conditioned by the Corps as may be necessary to protect the federally authorized project purposes and operations;

(2) charges to be paid by Licensee to Corps (a) for technical studies by Corps that relate solely to the structural integrity or operation of the Corps facility associated with power plant development, (b) for review of designs including plans and specifications, and for construction inspections based on personnel costs, where such review and inspections are directly related to the structural integrity or operation of the Corps dam, and (c) for construction costs that may be incurred by the Corps for the specific and sole purpose of accommodating the installation of power facilities at the existing Corps dam; and (3) charges to be paid by Licensee to the Corps for copies or reports, drawings and similar data based on printing and mailing costs, provided that charges shall not be assessed for information, services or relationships that would normally be provided to the public. Should Licensee and Corps fail to reach an agreement, the Licensee shall refer the matter to the Commission for resolution.

Article 41. Licensee shall, prior to commencement of operation of the project, enter into a memorandum of agreement with the U.S. Army Corps of Engineers (Corps), Sacramento District describing the mode of hydropower operation acceptable to the Corps. The Commission's Regional Engineer shall be invited to attend meetings regarding the agreement. The memorandum of agreement shall be subject to revision by mutual consent of the Corps and Licensee as experience is gained by actual project operation. Should the Corps fail to reach an agreement with the Licensee, the matter will be referred to the Director, Office of Electric Power Regulation for resolution. Copies of the signed memorandum between the Corps and the Licensee and any revision thereof shall be furnished to the Director, Office of Electric Power Regulation and the Regional Engineer.

Article 42. The operation of Project No. 3190 shall not interfere with the use, storage or discharge of waters from the United States Corps of Engineers' Black Butte Dam and shall be secondary and subordinate to the primary functions of the dam and reservoir.

Article 43. The Licensee shall, prior to the commencement of any construction at the project, consult with the California State Historic Preservation Officer (SHPO) about the need for any cultural resource survey and salvage work. The Licensee shall make available funds in a reasonable amount for any such work as required. If any previously unrecorded

archeological or historical sites are discovered during the course of construction or development of any project works or other facilities at the project, construction activity in the vicinity shall be halted, a qualified archeologist shall be consulted to determine the significance of the sites, and the Licensee shall consult with the SHPO to develop a mitigation plan for the protection of significant archeological or historical resources. If the Licensee and the SHPO cannot agree on the amount of money to be expended on archeological or historical work related to the project, the Commission reserves the right to require the Licensee to conduct, at its own expense, any such work found necessary.

Article 44. The Licensee shall, to the satisfaction of the Commission's authorized representative, install and operate any signs, lights, sirens, or other safety devices that may reasonably be needed to warn the public of fluctuations in flow from the project and protect the public in its recreational use of project lands and waters.



Lawrence R. Anderson
Director, Office of
Electric Power Regulation

FEDERAL ENERGY REGULATORY COMMISSION

TERMS AND CONDITIONS OF LICENSE FOR
UNCONSTRUCTED MAJOR PROJECT AFFECTING
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Article 1. The entire project, as described in this order of the Commission, shall be subject to all of the provisions, terms, and conditions of the license.

Article 2. No substantial change shall be made in the maps, plans, specifications, and statements described and designated as exhibits and approved by the Commission in its order as a part of the license until such change shall have been approved by the Commission: Provided, however, That if the Licensee or the Commission deems it necessary or desirable that said approved exhibits, or any of them, be changed, there shall be submitted to the Commission for approval a revised, or additional exhibit or exhibits covering the proposed changes which, upon approval by the Commission, shall become a part of the license and shall supersede, in whole or in part, such exhibit or exhibits theretofore made a part of the license as may be specified by the Commission.

Article 3. The project works shall be constructed in substantial conformity with the approved exhibits referred to in Article 2 herein or as changed in accordance with the provisions of said article. Except when emergency shall require for the protection of navigation, life, health, or property, there shall not be made without prior approval of the Commission any substantial alteration or addition not in conformity with the approved plans to any dam or other project works under the license or any substantial use of project lands and waters not authorized herein; and any emergency alteration, addition, or use so made shall thereafter be subject to such modification and change as the Commission may direct. Minor changes in project works, or in uses of project lands and waters, or divergence from such approved exhibits may be made if such changes will not result in a decrease in efficiency, in a material increase in cost, in an adverse environmental impact, or in impairment of the general scheme of development; but any of such minor changes made without the prior approval of the Commission, which in its judgment have produced or will produce any of such results, shall be subject to such alteration as the Commission may direct.

Upon the completion of the project, or at such other time as the Commission may direct, the Licensee shall submit to the Commission for approval revised exhibits insofar as necessary to show any divergence from or variations in the project area and project boundary as finally located or in the project works as actually constructed when compared with the area and boundary shown and the works described in the license or in the exhibits approved by the Commission, together with a statement in writing setting forth the reasons which in the opinion of the Licensee necessitated or justified variation in or divergence from the approved exhibits. Such revised exhibits shall, if and when approved by the commission, be made a part of the license under the provisions of [Article 2](#) hereof.

Article 4. The construction, operation, and maintenance of the project and any work incidental to additions or alterations shall be subject to the inspection and supervision of the Regional Engineer, Federal Power Commission, in the region wherein the project is located, or of such other officer or agent as the Commission may designate, who shall be the authorized representative of the Commission for such purposes. The Licensee shall cooperate fully with said representative and shall furnish him a detailed program of inspection by the Licensee that will provide for an adequate and qualified inspection force for construction of the project and for any subsequent alterations to the project. Construction of the project works or any feature or alteration thereof shall not be initiated until the program of inspection for the project works or any such feature thereof has been approved by said representative. The Licensee shall also furnish to said representative such further information as he may require concerning the construction, operation, and maintenance of the project, and of any alteration thereof, and shall notify him of the date upon which work will begin, as far in advance thereof as said representative may reasonably specify, and shall notify him promptly in writing of any suspension of work for a period of more than one week, and of its resumption and completion. The Licensee shall allow said representative and other officers or employees of the United States, showing proper credentials, free and unrestricted access to, through, and across the project lands and project works in the performance of their official duties. The Licensee shall comply with such rules and regulations of general or special applicability as the Commission may prescribe from time to time for the protection of life, health, or property.

Article 5. The Licensee, within five years from the date of issuance of the license, shall acquire title in fee or the right to use in perpetuity all lands, other than lands of the United States, necessary or appropriate for the construction, maintenance, and operation of the project. The Licensee or its successors and assigns shall, during the period of the license, retain the possession of all project property covered by the license as issued or as later amended, including the project area, the project works, and all franchises, easements, water rights, and rights of occupancy and use; and none of such properties shall be voluntarily sold, leased, transferred, abandoned, or otherwise disposed of without the prior written approval of the Commission, except that the Licensee may lease or otherwise dispose of interests in project lands or property without specific written approval of the Commission pursuant to the then current regulations of the Commission. The provisions of this article are not intended to prevent the abandonment or the retirement from service of structures, equipment, or other project works in connection with replacements thereof when they become obsolete, inadequate, or inefficient for further service due to wear and tear; and mortgage or trust deeds or judicial sales made thereunder, or tax sales, shall not be deemed voluntary transfers within the meaning of this article.

Article 6. In the event the project is taken over by the United States upon the termination of the license as provided in Section 14 of the Federal Power Act, or is transferred to a new licensee or to a non-power licensee under the provisions of Section 15 of said Act, the Licensee, its successors and assigns shall be responsible for, and shall make good any defect of title to, or of right of occupancy and use in, any of such project property that is necessary or appropriate or valuable and serviceable in the maintenance and operation of the project, and shall pay and discharge, or shall assume responsibility for payment and discharge of, all liens or encumbrances upon the project or project property created by the Licensee or created or incurred after the issuance of the license: Provided, That the provisions of this article are not intended to require the Licensee, for the purpose of transferring the project to the United States or to a new licensee, to acquire any different title to, or right of occupancy and use in, any of such project property than was necessary to acquire for its own purposes as the Licensees.

Article 7. The actual legitimate original cost of the project, and of any addition thereto or betterment thereof, shall be determined by the Commission in accordance with the Federal Power Act and the Commission's Rules and Regulations thereunder.

Article 8. The Licensee shall install and thereafter maintain gages and stream-gaging stations for the purpose of determining the stage and flow of the stream or streams on which the project is located, the amount of water held in and withdrawn from storage, and the effective head on the turbines; shall provide for the required reading of such gages and for the adequate rating of such stations; and shall install and maintain standard meters adequate for the determination of the amount of electric energy generated by the project works. The number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, shall at all times be satisfactory to the Commission or its authorized representative. The Commission reserves the right, after notice and opportunity for hearing, to require such alterations in the number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, as are necessary to secure adequate determinations. The installation of gages, the rating of said stream or streams, and the determination of the flow thereof, shall be under the supervision of, or in cooperation with, the District Engineer of the United States Geological Survey having charge of stream-gaging operations in the region of the project, and the Licensee shall advance to the United States Geological Survey the amount of funds estimated to be necessary for such supervision, or cooperation for such periods as may be mutually agreed upon. The Licensee shall keep accurate and sufficient records of the foregoing determinations to the satisfaction of the Commission, and shall make return of such records annually at such time and in such form as the Commission may prescribe.

Article 9. The Licensee shall, after notice and opportunity for hearing, install additional capacity or make other changes in the project as directed by the Commission, to the extent that it is economically sound and in the public interest to do so.

Article 10. The Licensee shall, after notice and opportunity for hearing, coordinate the operation of the project, electrically and hydraulically, with such other projects or power systems and in such manner as the Commission may direct in the interest of power and other beneficial public uses of water resources, and on such conditions concerning the equitable sharing of benefits by the Licensee as the Commission may order.

Article 11. Whenever the Licensee is directly benefited by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement, the Licensee shall reimburse the owner of the headwater improvement for such part of the annual charges for interest, maintenance, and depreciation thereof as the Commission shall determine to be equitable, and shall pay to the United States the cost of making such determination as fixed by the Commission. For benefits provided by a storage reservoir or other headwater improvement of the United States, the Licensee shall pay to the Commission the amounts for which it is billed from time to time for such headwater benefits and for the cost of making the determinations pursuant to the then current regulations of the Commission under the Federal Power Act.

Article 12. The operations of the Licensee, so far as they affect the use, storage and discharge from storage of waters affected by the license, shall at all times be controlled by such reasonable rules and regulations as the Commission may prescribe for the protection of life, health, and property, and in the interest of the fullest practicable conservation and utilization of such waters for power purposes and for other beneficial public uses, including recreational purposes, and the Licensee shall release water from the project reservoir at such rate in cubic feet per second, or such volume in acre-feet per specified period of time, as the Commission may prescribe for the purposes hereinbefore mentioned.

Article 13. On the application of any person, association, corporation, Federal agency, State or municipality, the Licensee shall permit such reasonable use of its reservoir or other project properties, including works, lands and water rights, or parts thereof, as may be ordered by the Commission, after notice and opportunity

for hearing, in the interests of comprehensive development of the waterway or waterways involved and the conservation and utilization of the water resources of the region for water supply or for the purposes of steam-electric, irrigation, industrial, municipal or similar uses. The Licensee shall receive reasonable compensation for use of its reservoir or other project properties or parts thereof for such purposes, to include at least full reimbursement for any damages or expenses which the joint use causes the Licensee to incur. Any such compensation shall be fixed by the Commission either by approval of an agreement between the Licensee and the party or parties benefiting or after notice and opportunity for hearing. Applications shall contain information in sufficient detail to afford a full understanding of the proposed use, including satisfactory evidence that the applicant possesses necessary water rights pursuant to applicable State law, or a showing of cause why such evidence cannot concurrently be submitted, and a statement as to the relationship of the proposed use to any State or municipal plans or orders which may have been adopted with respect to the use of such waters.

Article 14. In the construction or maintenance of the project works, the Licensee shall place and maintain suitable structures and devices to reduce to a reasonable degree the liability of contact between its transmission lines and telegraph, telephone and other signal wires or power transmission lines constructed prior to its transmission lines and not owned by the Licensee, and shall also place and maintain suitable structures and devices to reduce to a reasonable degree the liability of any structures or wires falling or obstructing traffic or endangering life. None of the provisions of this article are intended to relieve the Licensee from any responsibility or requirement which may be imposed by any other lawful authority for avoiding or eliminating inductive interference,

Article 15. The Licensee shall, for the conservation and development of fish and wildlife resources, construct, maintain, and operate, or arrange for the construction, maintenance, and operation of such reasonable facilities, and comply with such reasonable modifications of the project structures and operation, as may be ordered by the Commission upon its own motion or upon the recommendation of the Secretary of the Interior or the fish and wildlife agency or agencies of any State in which the project or a part thereof is located, after notice and opportunity for hearing.

Article 16. Whenever the United States shall desire, in connection with the project, to construct fish and wildlife facilities or to improve the existing fish and wildlife facilities at its own expense, the Licensee shall permit the United States or its designated agency to use, free of cost, such of the Licensee's lands and interests in lands, reservoirs, waterways and project works as may be reasonably required to complete such facilities or such improvements thereof. In addition, after notice and opportunity for hearing, the Licensee shall modify the project operation as may be reasonably prescribed by the Commission in order to permit the maintenance and operation of the fish and wildlife facilities constructed or improved by the United States under the provisions of this article. This article shall not be interpreted to place any obligation on the United States to construct or improve fish and wildlife facilities or to relieve the Licensee of any obligation under this license.

Article 17. The Licensee shall construct, maintain, and operate, or shall arrange for the construction, maintenance, and operation of such reasonable recreational facilities, including modifications thereto, such as access roads, wharves, launching ramps, beaches, picnic and camping areas, sanitary facilities, and utilities, giving consideration to the needs of the physically handicapped, and shall comply with such reasonable modifications of the project, as may be prescribed hereafter by the Commission during the term of this license upon its own motion or upon the recommendation of the Secretary of the Interior or other interested Federal or State agencies, after notice and opportunity for hearing.

Article 18. So far as is consistent with proper operation of the project, the Licensee shall allow the public free access, to a reasonable extent, to project waters and adjacent project lands owned by the Licensee for the purpose of full public utilization of such lands and waters for navigation and for outdoor recreational purposes, including fishing and hunting: Provided, That the Licensee may reserve from public access such portions of the project waters, adjacent lands, and project facilities as may be necessary for the protection of life, health, and property.

Article 19. In the construction, maintenance, or operation of the project, the Licensee shall be responsible for, and shall take reasonable measures to prevent, soil erosion on lands adjacent to streams or other waters, stream sedimentation, and any form of water or air pollution. The Commission, upon request or upon its own motion, may order the Licensee to take such measures as the Commission finds to be necessary for these purposes, after notice and opportunity for hearing.

Article 20. The Licensee shall consult with the appropriate State and Federal agencies and, within one year of the date of issuance of this license, shall submit for Commission approval a plan for clearing the reservoir area. Further, the Licensee shall clear and keep clear to an adequate width lands along open conduits and shall dispose of all temporary structures, unused timber, brush, refuse, or other material unnecessary for the purposes of the project which results from the clearing of lands or from the maintenance or alteration of the project works. In addition, all trees along the periphery of project reservoirs which may die during operations of the project shall be removed. Upon approval of the clearing plan all clearing of the lands and disposal of the unnecessary material shall be done with due diligence and to the satisfaction of the authorized representative of the Commission and in accordance with appropriate Federal, State, and local statutes and regulations.

Article 21. Timber on lands of the United States cut, used, or destroyed in the construction and maintenance of the project works, or in the clearing of said lands, shall be paid for, and the resulting slash and debris disposed of, in accordance with the requirements of the agency of the United States having jurisdiction over said lands. Payment for merchantable timber shall be at current stump-age rates, and payment for young growth timber below merchantable size shall be at current damage appraisal values. However, the agency of the United States having jurisdiction may sell or dispose of the merchantable timber to others than the Licensee: Provided, That timber so sold or disposed of shall be cut and removed from the area prior to, or without undue interference with, clearing operations of the Licensee and in coordination with the Licensee's project construction schedules. Such sale or disposal to others shall not relieve the Licensee of responsibility for the clearing and disposal of all slash and debris from project lands.

Article 22. The Licensee shall do everything reasonably within its power, and shall require its employees, contractors, and employees of contractors to do everything reasonably within their power, both independently and upon the request of officers of the agency concerned, to prevent, to make advance preparations for suppression of and to suppress fires on the lands to be occupied or used under the license. The Licensee shall be liable for and shall pay the coats incurred by the United States in suppressing fires caused from the construction, operation, or maintenance of the project works or of the works appurtenant or accessory thereto under the license.

Article 23. The Licensee shall interpose no objection to, and shall in no way prevent, the use by the agency of the United States having jurisdiction over the lands of the United States affected, or by persons or corporations occupying lands of the United States under permit, of water for fire suppression from any stream, conduit, or body of water, natural or artificial, used by the Licensee in the operation of the project works covered by the license, or the use by said parties of water for sanitary and domestic purposes from any stream, conduit, or body of water, natural or artificial, used by the Licensee in the operation of the project works covered by the license.

Article 24 . The Licensee shall be liable for injury to, or destruction of, any buildings, bridges, roads, trails, lands, or other property of the United States, occasioned by the construction, maintenance, or operation of the project works or of the works appurtenant or accessory thereto under the license. Arrangements to meet such liability, either by compensation for such injury or destruction, or by reconstruction or repair of damaged property, or otherwise, shall be made with the appropriate department or agency of the United States.

Article 25. The Licensee shall allow any agency of the United States, without charge, to construct or permit to be constructed on, through, and across those project lands which are lands of the United States such conduits, chutes, ditches, railroads, roads, trails, telephone and power lines, and other routes or means of transportation and communication as are not inconsistent with the enjoyment

of said lands by the Licensee for the purposes of the license. This license shall not be construed as conferring upon the Licensee any right of use, occupancy, or enjoyment of the lands of the United States other than for the construction, operation, and maintenance of the project as stated in the license.

Article 26. In the construction and maintenance of the project, the location and standards of roads and trails on lands of the United States and other uses of lands of the United States, including the location and condition of quarries, borrow pits, and spoil disposal areas, shall be subject to the approval of the department or agency of the United States having supervision over the lands involved.

Article 27. The Licensee shall make provision, or shall bear the reasonable cost, as determined by the agency of the United States affected, of making provision for avoiding inductive interference between any project transmission line or other project facility constructed, operated, or maintained under the license, and any radio installation, telephone line, or other communication facility installed or constructed before or after construction of such project transmission line or other project facility and owned, operated, or used by such agency of the United States in administering the lands under its jurisdiction.

Article 28. The Licensee shall make use of the Commission's guidelines and other recognized guidelines for treatment of transmission line rights-of-way, and shall clear such portions of transmission line rights-of-way across lands of the United States as are designated by the officer of the United States in charge of the lands; shall keep the areas so designated clear of new growth, all refuse, and inflammable material to the satisfaction of such officer; shall trim all branches of trees in contact with or liable to contact the transmission lines; shall cut and remove all dead or leaning trees which might fall in contact with the transmission lines; and shall take such other precautions against fire as may be required by such officer. No fires for the burning of waste material shall be set except with the prior written consent of the officer of the United States in charge of the lands as to time and place.

Article 29. The Licensee shall cooperate with the United States in the disposal by the United States, under the Act of July 31, 1947, 61 Stat. 631, as amended (30 U.S.C. sec. 601, et seq.), of mineral and vegetative materials from lands of the United States occupied by the project or any part thereof: Provided, That such disposal has been authorized by the Commission and that it does not unreasonably interfere with the occupancy of such lands by the Licensee for the purposes of the license: Provided further, That in the event of disagreement, any question of unreasonable interference shall be determined by the Commission after notice and opportunity for hearing.

Article 30. If the Licensee shall cause or suffer essential project property to be removed or destroyed or to become unfit for use, without adequate replacement, or shall abandon or discontinue good faith operation of the project or refuse or neglect to comply with the terms of the license and the lawful orders of the Commission mailed to the record address of the Licensee or its agent, the Commission will deem it to be the intent of the Licensee to surrender the license. The Commission, after notice and opportunity for hearing, may require the Licensee to remove any or all structures, equipment and power lines within the project boundary and to take any such other action necessary to restore the project waters, lands, and facilities remaining within the project boundary to a condition satisfactory to the United States agency having jurisdiction over its lands or the Commission's authorized representative, as appropriate, or to provide for the continued operation and maintenance of nonpower facilities and fulfill such other obligations under the license as the Commission may prescribe. In addition, the Commission in its discretion, after notice and opportunity for hearing, may also agree to the surrender of the license when the Commission, for the reasons recited herein, deems it to be the intent of the Licensee to surrender the license.

Article 31. The right of the Licensee and of its successors and assigns to use or occupy waters over which the United States has jurisdiction, or lands of the United States under the license, for the purpose of maintaining the project works or otherwise, shall absolutely cease at the end of the license period, unless the Licensee has obtained a new license pursuant to the then existing laws and regulations, or an annual license under the terms and conditions of this License.

Article 32. The terms and conditions expressly set forth in the license shall not be construed as impairing any terms and conditions of the Federal Power Act which are not expressly set forth herein.

RECEIVED

JUN 23 1983

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

City of Santa Clara, California) Project No. 3190-002

ORDER AMENDING LICENSE

(Issued January 30, 1985)

On December 31, 1984, City of Santa Clara (City), Licensee for the Black Butte Hydroelectric Project No. 3190, filed an application for a two year extension of time for start of construction of the project. 1/ Article 37 of the license requires construction of the project, located at existing Corps of Engineers' (Corps) Black Butte Dam on Stony Creek in Tehama County, California, to begin no later than April 30, 1985. 2/

The City states that the Corps is currently performing a study of potential seismic activity in the project area. The results of the Corps study scheduled to be published in May 1985, would have to be considered and possible modifications to the project design incorporated before the Corps would give its approval for start of construction.

The City further states that the two year extension is needed to accomplish the above and to schedule the construction work in coordination with the seasonal reservoir levels and release activities at the Black Butte Dam. Under the circumstances the extension is warranted.

Licensee is put on notice that Section 13 of Federal Power Act, 16 U.S.C. §806, only allows for one such extension to be granted for a period not to exceed two years.

1/ Authority to act on this matter is delegated to the Director, Office of Hydropower Licensing, under SS375.314 of the Commission's regulations, 49 Fed. Reg. 29,369 (1984) (Errata issued July 27, 1984), (to be codified at 18 C.F.R. SS375.314). This action may be appealed to the Commission by any party within 30 days of the issuance date of this order pursuant to Rule 1902, 18 C.F.R. SS385.1902 (1983). Filing an appeal and final Commission action on that appeal are prerequisites for filing an application for rehearing as provided in Section 313(a) of the Act. Filing an appeal does not operate as a stay of the effective date of this order or of any other date specified in this order, except as specifically directed by the Commission.

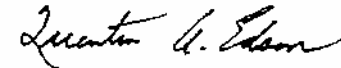
2/ The license for Project No. 3190 was issued on May 5, 1983. 23 FERC PP162,149.

It is ordered that:

Article 37 of the license for Project No. 3190 is amended, effective the first day of the month in which this order is issued, as follows:

Article 37: The Licensee shall commence construction of the project no later than April 30, 1987, and complete construction of the project no later than April 30, 1989.

CITY OF SANTA CLARA
ELECTRIC DEPARTMENT



Quentin A. Edson
Director, Office of
Hydropower Licensing

The City of Santa Clara
No. 3190-005

Project

Black Butte

ORDER AMENDING LICENSE TO MODIFY TRANSMISSION LINE
(Issued June 26, 1987) On February 5, 1987, the City of Santa Clara, licensee for the Black Butte Project, filed an application for amendment of license to abandon the authorized, but not constructed, 1,500-foot-long, 12-kV transmission line interconnecting the project to Pacific Gas and Electric Company's (PG&E) existing 12-kV line and instead construct a new 9.5-mile-long, 60-kV transmission line interconnecting the project to PG&E's existing 60-kV line near the City of Orland, California. The licensee states that the proposed 60-kV transmission line would be more efficient than the 12-kV transmission line.

Notice of the application for amendment of license has been published and comments have been received from interested federal, state and local agencies. None of the commenting agencies objected to the amendment of license. No protests or petitions to intervene have been filed. After considering the environmental information in the application for amendment of license, the staff's independent assessment 1/, and other public comments, the Director finds that issuance of this order is not a major federal action significantly affecting the quality of the human environment.

The Director orders:

- (A) The licensee is authorized to construct, operate, and maintain the new 9.5-mile-long transmission line.
- (B) Subparagraph (2) of ordering paragraph B of the license is revised to indicate deletion of the previously authorized transmission line and the addition of the new transmission line:
 - (2) Project works consisting of: (a) an intake structure within the Black Butte Reservoir near the southern abutment of the Black Butte Dam;
 - (b) a 12.5-foot diameter, 1,000-foot-long penstock tunnel through the southern abutment of the dam;
 - (c) a powerhouse containing a single generating unit with an installed capacity of 6,200 kW,

1/ Environmental Assessment, Black Butte Power Project, FERC Project No. 3190-005, Federal Energy Regulatory Commission, dated June 16, 1987. This document is available in the Commission's public file associated with this proceeding and is attached to this order.


located 350 feet downstream of the outlet works of the dam; (d) a switchyard adjacent to the north side of the powerhouse; (e) a 300-foot-long open channel, (f) a 6-foot-high reregulating dam, approximately 300 feet downstream of the powerhouse; (g) a 400-foot-long canal diverting irrigation water into South Side Canal; (h) a 9.5-mile-long, 60-kV transmission line connecting the project with the Pacific Gas and Electric Company's 60-kV line near the City of Orland, California; and (i) appurtenant facilities.

- (C) The license is amended to include the following articles:

Article 401. The licensee shall construct the project transmission line according to the detailed designs, included as exhibit F, Drawing F-5, in its February 5, 1987, application for amendment of license, for the prevention of electrocution of bald eagles, golden eagles, and other raptors.

Article 402. The licensee shall implement the mitigative measures, described in Appendix C, Wildlife and Botanical Report, on page C-8, of its February 5, 1987, application for amendment of license, which provide for the protection of riparian and other woodland habitats during project construction.

- (D) This order is issued under authority delegated to Director and is final unless appealed to the Commission under Rule 1902 within 30 days from the date of this order.


William C. Wakefield II
Acting Director, Division of
Project Management

ENVIRONMENTAL ASSESSMENT
FOR HYDROPOWER LICENSE

Black Butte Project
California

FERC No. 3190-005

Division of Environmental Analysis
Office of Hydropower Licensing
Federal Energy Regulatory Commission
825 N. Capitol Street, NE
Washington, D.C. 20426

June 15, 1987

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ENVIRONMENTAL ASSESSMENT
DIVISION OF ENVIRONMENTAL ANALYSIS, OFFICE OF HYDROPOWER LICENSING
FEDERAL ENERGY REGULATORY COMMISSION

Date: June 15, 1987

Project name: Black Butte FERC No. 3190-005

A. APPLICATION

1. Application type: Amendment of license Date filed: 2/5/87
2. Applicant: City of Santa Clara
3. Water body: Black Butte Lake River basin: Sacramento River
4. Nearest city or town: Orland
5. County: Tehama and Glenn State: California

B. PURPOSE AND NEED FOR ACTION

1. Purpose: The proposed transmission line would connect the licensed Black Butte Project to an existing Pacific Gas and Electric Company (PG&E) transmission line near Orland, California.
2. Need for power: No increase in generating capacity is proposed in this application for amendment of license.

C. PROPOSED PROJECT AND ALTERNATIVES

1. Description of the proposed action; The licensee proposes to to abandon the 1,500-foot-long, 12-kilovolt (kV) transmission line, authorized in the license, connecting the project to PG&E's 12-kV line downstream of the power house and construct a new 9.5-mile-long, 69-kV transmission line connecting the project to an existing PG&E 60-kV transmission line near Orland, California. The proposed transmission line would be located along established roadways known as Newville Road (County Road No. 200), Cedar Avenue (Road FF), and Road 9.
2. Applicant's proposed mitigative measures.
 - a. Construction; The licensee would minimize impacts on riparian habitat by locating construction work areas in previously disturbed areas, using rubber tired vehicles during construction to avoid soil disturbance, and siting the transmission line to avoid extensive pruning and removal of trees.
 - b. Operation The licensee would design and construct the transmission line to protect raptors from electrocution.

-2-

3. Federal lands affected.

 No. X Yes; agency: Department of the A
total of 54.

The federal land management agency has not pre-amended project.

4. Alternatives to the proposed action.

- a. X No reasonable action alternatives have been identified. Action alternative:
- b. Alternative of no action: No action, denial would preclude the applicant from constructing the line. No action would involve no alteration and would preclude the applicant from effecting power from the project.

D. CONSULTATION AND COMPLIANCE

1. Fish and wildlife consultation (Fish & Wildlife Service)
 - a. U.S. Fish & Wildlife Service (FWS)
 - b. State(s)
 - c. National Marine Fisheries Service (NMFS):
2. Section 7 consultation (Endangered Species Act)
 - a. Listed species: Nearby Stony Gorge Reservoir area for bald eagles. Bald eagles also hatch at Lake.
 - b. X Not required. Required; complete
Remarks: The proposed transmission line would prevent bald eagles from being electrocuted. Species identified by FWS was found within the corridor.
3. Section 401 certification (Clean Water Act).
 X Not required. Received. Waived.
4. Cultural resource consultation (Historic Preservation)
 - a. Register status: X None. Eligible
 - b. State Historic Preservation Officer (SHPO): Yes
 - c. National Park Service (NPS): Yes
 - d. Consultation with the Advisory Council is required: Yes
5. Recreation consultation (Federal Power Act).
 - a. U.S. Owners: Yes X No b. NPS
 - c. State(s) : Yes X No
6. Wild and scenic rivers (Wild and Scenic Rivers Act)
The proposal would not affect wild and scenic rivers.

7. LWCF lands and facilities affected (Land and Water Conservation Fund Act). The proposal would not affect LWCF lands or facilities.

E. COMMENTS

1. The following agency provided comments on the application in response to the public notice dated 5/4 /87 .

<u>Commenting agencies and other entities</u>	<u>Date of letter</u>
The Resources Agency of California	6 / 3/87

The applicant did not respond to the comment.

F. AFFECTED ENVIRONMENT

The staff has review the proposed amendment to the project in relation to the environmental resources in the project impact area. Because the proposed single-pole transmission line only would cross several small streams, most of which are intermittent, the staff has concluded that there would be no relevant or material adverse impacts on streamflow, water quality, and fisheries, and therefore those resources are not described.

1. Topograpy, geology and soils; The proposed transmission line route begins at about 400 feet elevation in the low foothills of the northern Coast Range and ends at an elevation of about 260 feet in the Sacramento Valley. The area consists mostly of the Tehama Formation near the foothills and alluvial fan deposits in the flat valley.

2. Vegetation;

<u>Cover type</u>	<u>Dominant species</u>
riparian woodland	cottonwood, valley oak, California buckeye, black walnut, various willows, Himalaya berry, wild grape, and poison oak.
grassland	wild oats, fescue, clover filaree, foxtail, lupine, and bromus.

3. wildlife: Wildlife in the area includes black-tailed deer, raccoon, pocket gopher, bald eagle, golden eagle, cooper's hawk, red-shouldered hawk, rough-legged hawk, kestrel, California quail, and numerous songbirds.
4. Cultural; Listed and eligible National Register properties have not been recorded in the area of the project's potential impacts.

5. Visual quality; The proposed transmission line would be along existing roads which are lin distribution and transmission line facilities.
6. Recreation: Little recreation occurs along line route. The recreational area around B developed to provide more space and activities.
7. Land use: Most of the land along the proposed line is used for crops and grazing, but the area near the proposed line is used for residential development.
8. Socioeconomics: Tehama county's population in 1970 to an estimated 44,300 persons as of 1980. During this period, Glenn County's population expanded. The economy of Tehama County is based on cat agriculture, logging, and the manufacture of and veneer. Glenn County's economic base is in the processing of sugar beets, olives, plum cattle and sheep ranching (personal communication with Statistical Information Assistants, Marylnd, February 17, 1987).

G. ENVIRONMENTAL ISSUES AND PROPOSED RESOLUTIONS

There are 2 issues addressed below.

1. Raptor protection: Bald eagles and golden eagles are common in the vicinity of the proposed transmission line primarily cross-sections are limited, raptors are likely to use the proposed line. Transmission lines, such as the proposed line, are a potential hazard to raptors, particularly the land and golden eagles (Raptor Research Foundation, separation of energized wires, ground wires, and to minimize or prevent the electrocution of raptor line. The licensee has filed a design for construction of a transmission line that would minimize the potential for electrocution of raptors. The U.S. Fish and Wildlife Service, James J. McKevitt, Field Supervisor, U.S. Fish and Wildlife Service, Sacramento, California, June 5, 1986) indicate adequate to protect raptors from electrocution. The licensee should construct the proposed transmission line design filed in its application and found acceptable by the Wildlife Service.
2. Protection of riparian habitat and woodland; The proposed transmission line would cross riparian woodland along Stony and Hillside roads. Several stands of mature valley oaks elsewhere in the area are open terrain devoted to farming and ranching, which are important to many species of wildlife. Construction of a transmission line could result in losses of these habitats. To minimize these potential losses the licensee proposes to locate work areas in previously disturbed areas.

tired vehicles to avoid severe soil disturbance and reduced impacts on vegetation; and site the transmission line to avoid mature trees, particularly valley oaks, and minimize tree removal and extensive pruning at Stony and Hambright Creeks. These mitigative measures would adequately protect the valuable wildlife habitat during construction of the proposed transmission line and should be implemented by the licensee.

H. ENVIRONMENTAL IMPACTS

1. Assessment of adverse and beneficial impacts expected from the project as proposed by the applicant (P); the proposed project with the staff's recommended mitigation (Ps) [Section G]; and any other alternative considered (A).*

Resource	P	Impact Ps	A	Remarks
a. Geology/Soils	IAS			
b. Streamflow	O			
c. Water quality:				
Temperature	O			
Dissolved oxygen	O			
Turbidity and sedimentation	O			
d. Fisheries:				
Anadromous	O			
Resident	O			
e. Vegetation	IAS			e. Minor amounts of vegetation would be disturbed within the proposed transmission line corridor.
f. Wildlife	IAS			
g. Cultural:				
Archeology	O			
History	O			
h. Visual quality	IAL			
i. Recreation	O			
j. Land use	O			
k. Socioeconomics	IBS			k. The earnings of project construction personnel who are local residents, and the spending of all workers at stores in the Orland area would benefit the local economy. Construction of the transmission line would cause minor delays for motorists along the proposed route.

* The assessment reflects the adoption of any federal land management agency's conditions, in addition to the applicant's proposed mitigation. Assessment symbols indicate the following impact levels:

0 = no impact; 1 = Minor impact; 2 = Moderate impact; 3 = Major impact; A = Adverse; B = Beneficial; L = Long-term impact; S = Short-term impact.

2. Impacts of the no-action alternative.

Under the no-action alternative, there would be no or changes to the existing physical, biological, or Electrical power that would be generated by the line have to be transmitted using a less efficient transmission line.

3. Recommended alternative (including proposed, re Treasures): X Proposed project. Alte:

4. Reason(s) for selecting the preferred alternative

The proposed transmission line would allow the electrical power, while causing only minor impacts on the area.

I. UNAVOIDABLE ADVERSE ENVIRONMENTAL IMPACTS OF THE

Construction of the transmission line would cause minor delays for motorists on the 8.2 mile: adjacent to the proposed route; and disturb a small transmission line would have a minor additional impact on the quality of the area along the proposed route.

J. CONCLUSION

X Finding of No Significant Impact. Approval of the would not constitute a major federal action significantly affecting the human environment; therefore, an environmental impact statement is not required.

___ Intent to Prepare an EIS. Approval of the recommendation would constitute a major federal action significantly affecting the human environment; therefore, an EIS will be prepared.

K. LITERATURE CITED

1. City of Santa Clara, California. 1987. Application for the Black Butte Hydroelectric Project, FER January 1987.
2. Raptor Research Foundation, Inc. 1981. Suggested protection on power lines—the state of the art report no. 4. 111 pp.

L. LIST OF PREPARERS

Name	Position
John E. Estep	Ecologist
James T. Griffin	Archaeologist
James Haimes	Economist
James R. Kirby, Jr.	Environment

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

City of Santa Clara

Project No. 3190-006
California

ORDER APPROVING AS-BUILT EXHIBIT
(Issued September 19, 1989)

On August 3, 1989, the City of Santa Clara, licensee for the Black Butte Hydroelectric Project, filed revised exhibits A, F and G in compliance with article 34 of the license. The exhibits show the constructed configuration of the licensed project works.

The as-built exhibits conform to the Commission's Rules and Regulations and confirm that the constructed project works do not differ significantly from the design approved in the license.

The Director orders:

(A) The revised exhibit A filed on August 3, 1989, is approved and made part of the license, superseding the exhibit A of the order issuing license of May 5, 1983.

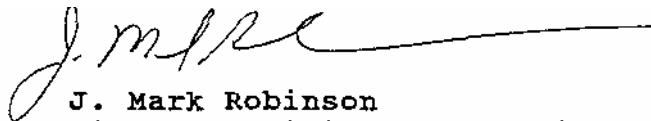
(B) The following revised exhibits F and G drawings are approved and made part of the license:

Exhibit	FERC No.	Showing	Superseding
F-1	3190-7	Project Works Plan	3190-2
F-2	3190-8	Powerhouse and Power Tunnel	3190-3
F-3A	3190-9	Power Tunnel Intake	3190-4
F-3B	3190-10	Reregulations Dam	3190-4
F-4	3190-11	South Canal Intake Structure	
F-5	3190-12	Transmission Line Configuration	
G-1	3190-13	Project Boundary	3190-6
G-2	3190-14	Transmission Line	
G-3	3190-15	Transmission Line	
G-4	3190-16	Transmission Line	
G-5	3190-17	Transmission Line	
G-6	3190-16	Transmission Line	
G-7	3190-19	Transmission Line	
G-8	3190-20	Transmission Line	
G-9	3190-21	Transmission Line	
G-10	3190-22	Transmission Line	

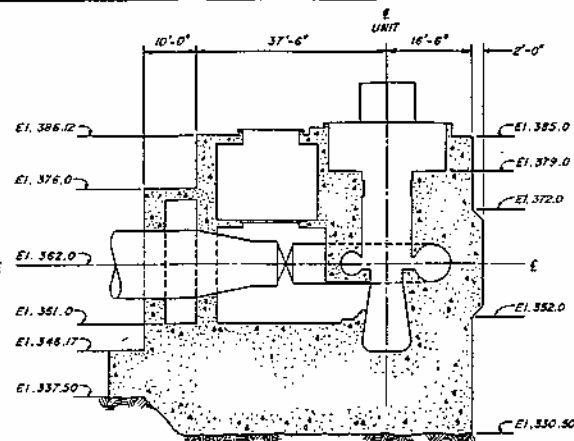
(C) The superseded exhibit F and G drawings are eliminated from the license.

(D) Within 90 days of the date of issuance of this order, the licensee shall file an original of the approved exhibit F and G drawings reproduced on silver or gelatin 35mm microfilm mounted on Type D (3 1/4" x 7 3/8") aperture card for each drawing. In addition, the licensee shall file two Diazo-type duplicate aperture cards. The original set and one duplicate set of aperture cards should be filed with the Secretary of the Commission. The remaining duplicate set of aperture cards should be filed with the Commission's San Francisco Regional Office. The FERC drawing number (3190-7 through 3190-22) shall be shown in the margin below the title block of the microfilmed drawing and also in the upper right corner of each aperture card. The top line of the aperture card shall show the FERC exhibit (i.e., F-1 through G-10), project number, drawing title, and date of this order.

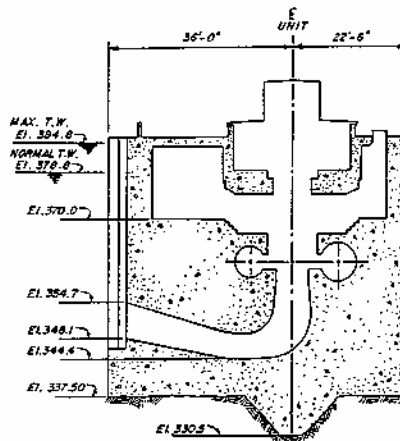
(E) This order is issued under authority delegated to the Director and is final unless appealed to the Commission under Rule 1902 within 30 days from the date of its issuance.

A handwritten signature in dark ink, appearing to read 'J. Mark Robinson', with a long horizontal line extending to the right.

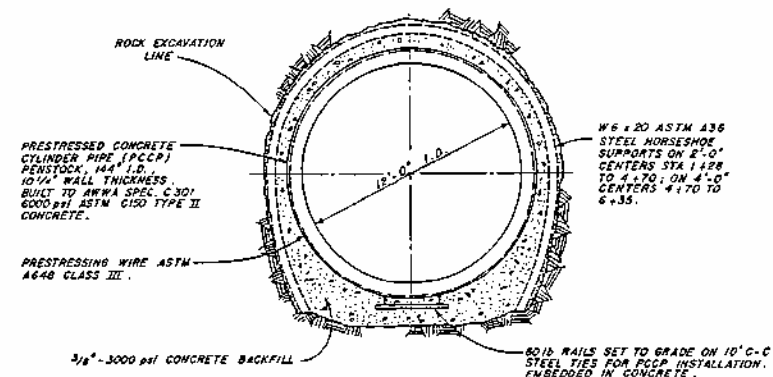
J. Mark Robinson
Director, Division of Project
Compliance and Administration



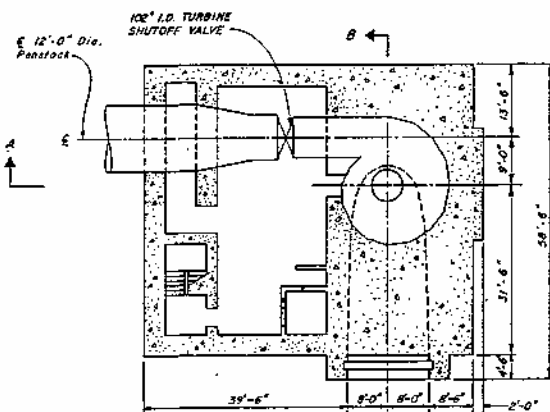
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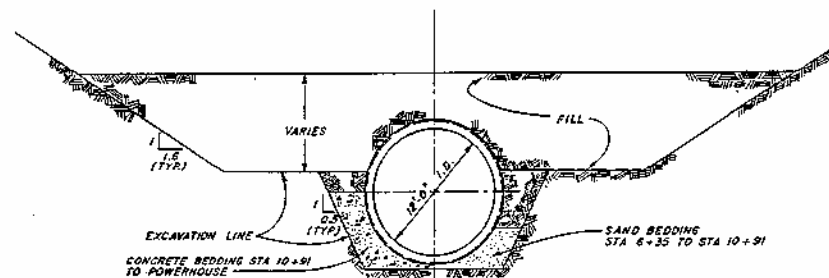
SECTION B-B
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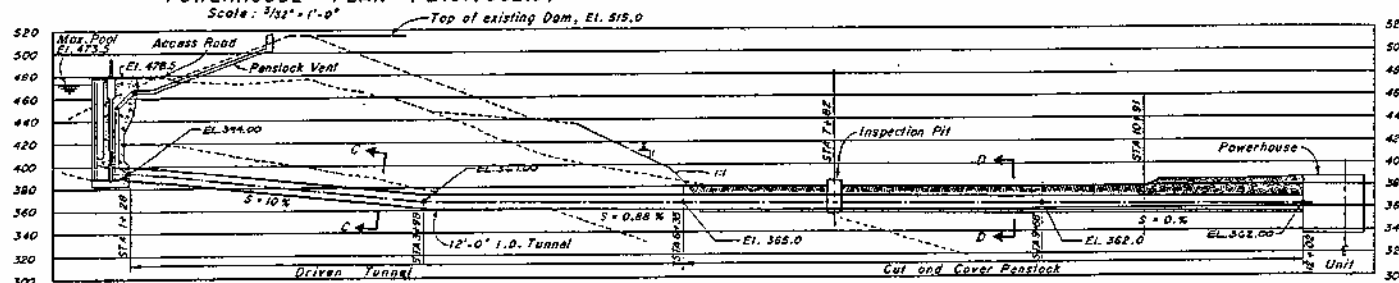
SECTION C-C (TYP.)
Not to Scale



POWERHOUSE PLAN (Elev. 362.0)
Scale: 3/32" = 1'-0"



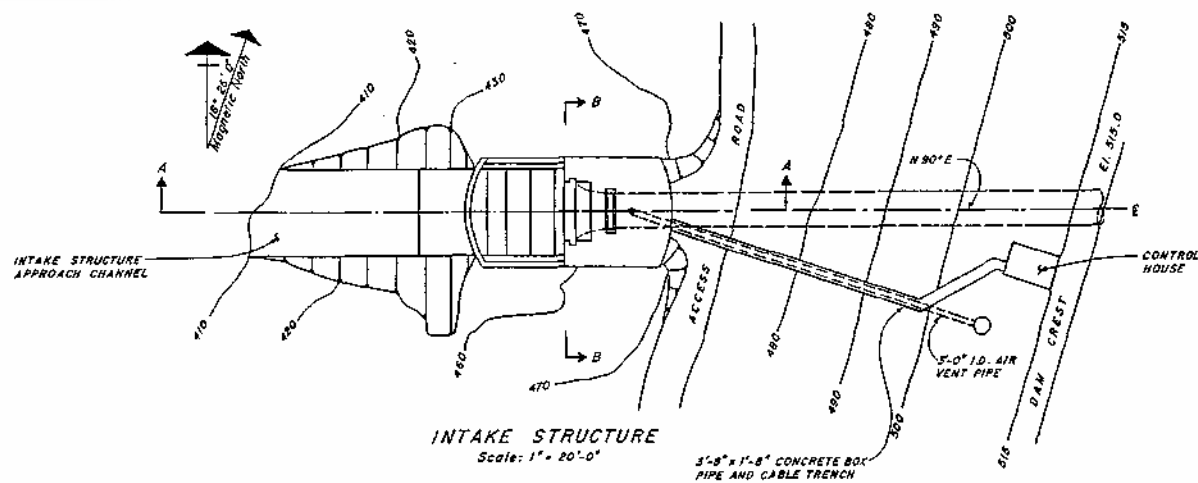
SECTION D-D (TYP.)
Scale: 3/16" = 1'-0"



PROFILE
Horiz. & Vert. Scale 1" = 50'

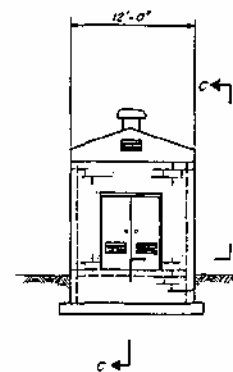
AS BUILT
EXHIBIT F

PROJECT NO. 2190			
BY THE CITY OF SANTA CLARA, CALIFORNIA			
BLACK BUTTE HYDROELECTRIC PROJECT			
POWERHOUSE AND POWER TUNNEL			
DRAWN:	SCALE AS SHOWN	DATE: MAR. 69	
CHECKED:		DWG NO.	F-2
RECOMMENDED:	M.R.H.		

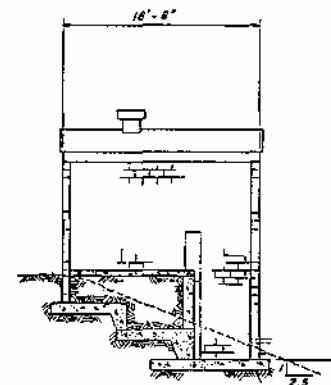


INTAKE STRUCTURE
Scale: 1" = 20'-0"

3'-9" x 1'-8" CONCRETE BOX
PIPE AND CABLE TRENCH

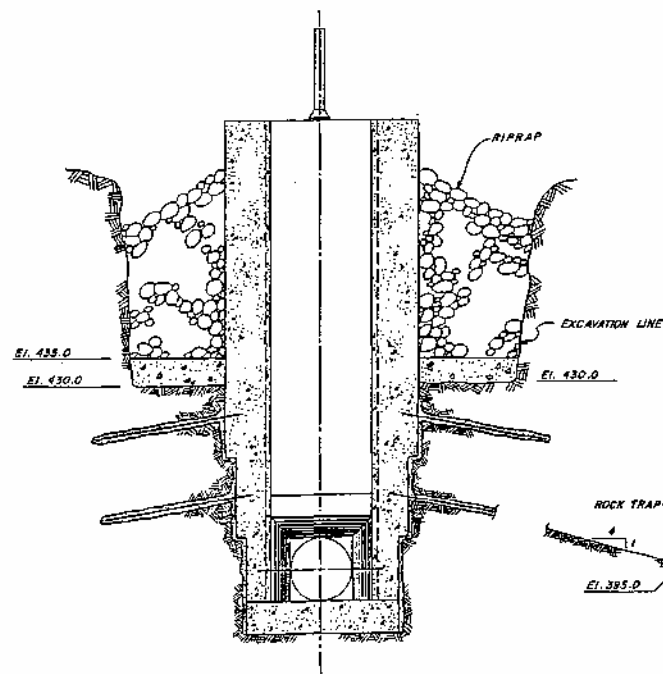


EAST ELEVATION

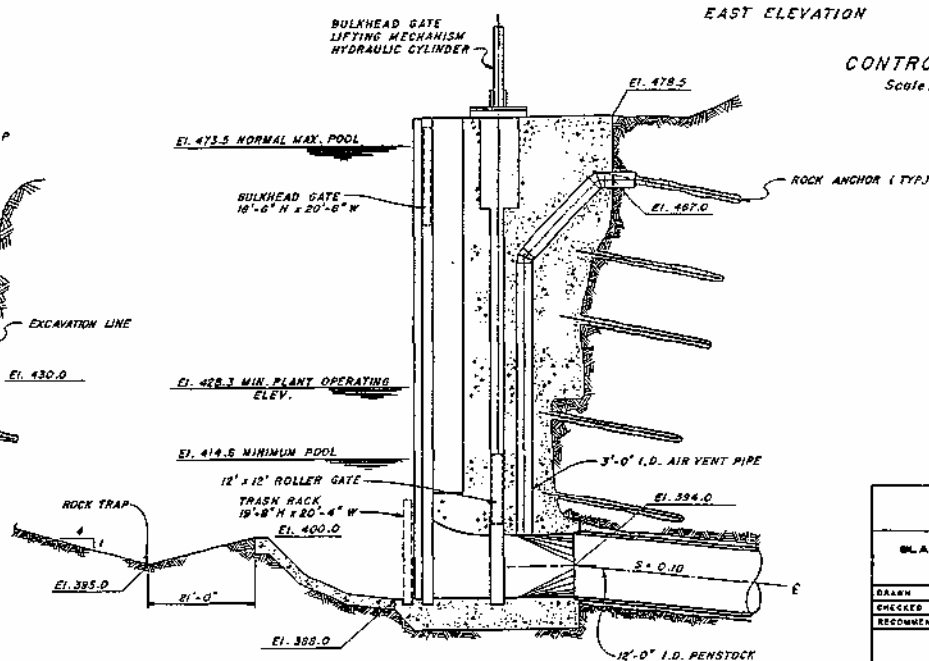


NORTH ELEVATION
SECTION C-C

CONTROL HOUSE
Scale: 3/16" = 1'-0"



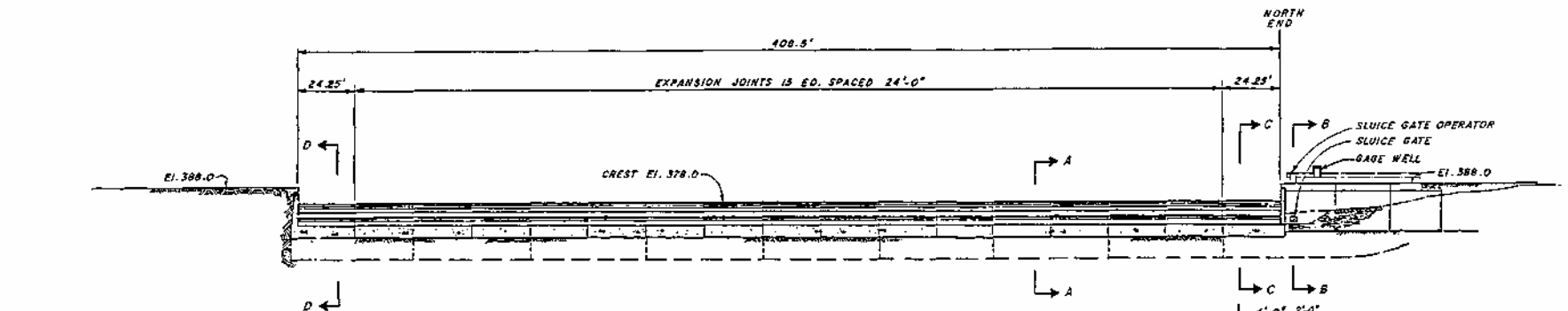
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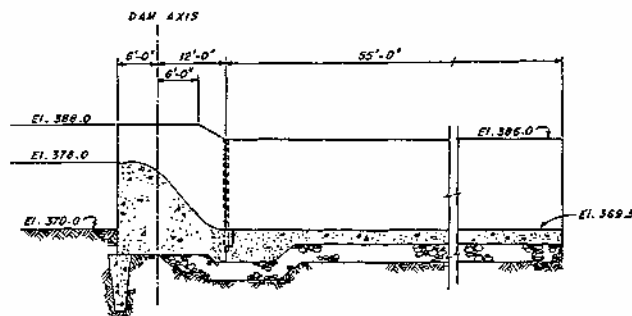
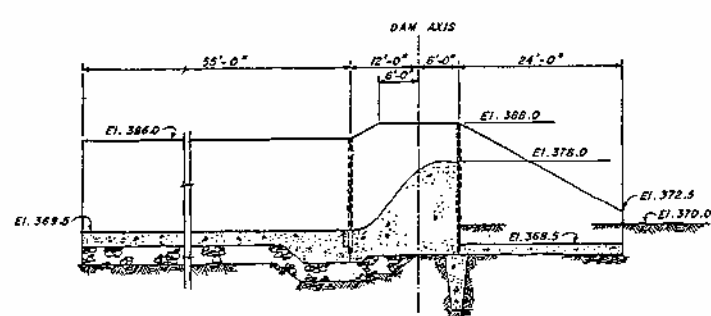
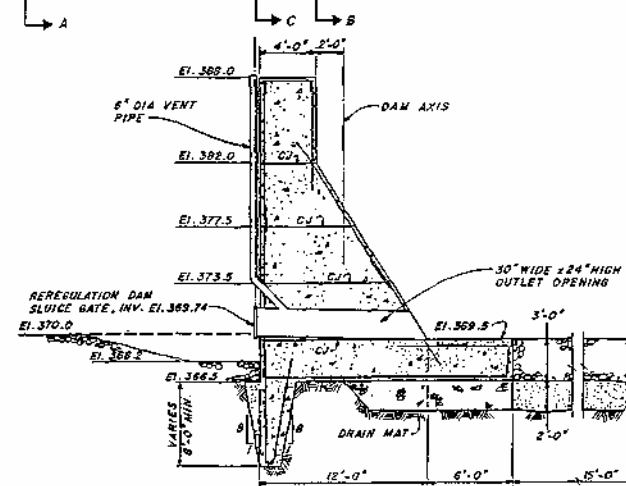
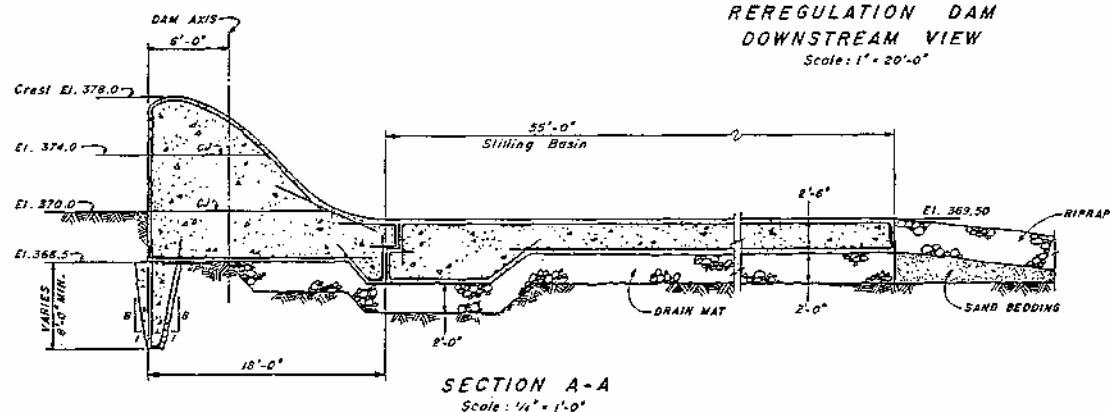
SECTION A-A
Scale: 3/16" = 1'-0"

AS - BUILT
EXHIBIT F

PROJECT NO. 3190			
BY THE CITY OF SANTA CLARA, CALIFORNIA			
BLACK BUTTE HYDROELECTRIC PROJECT			
POWER TUNNEL INTAKE			
DRAWN	SCALE AS SHOWN	DATE: MAR 1969	
CHECKED		DWG NO	F-3-A
RECOMMENDED	WRN		

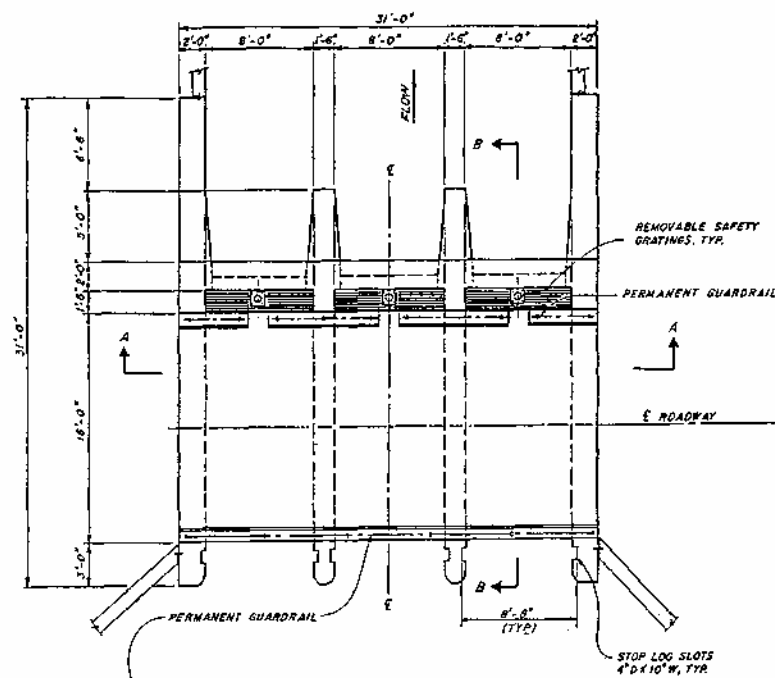


REREGULATION DAM
DOWNSTREAM VIEW
Scale: 1" = 20'-0"

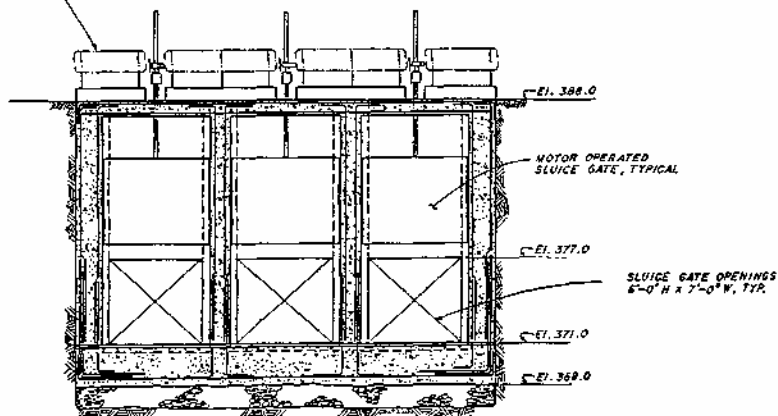


AS - BUILT
EXHIBIT F

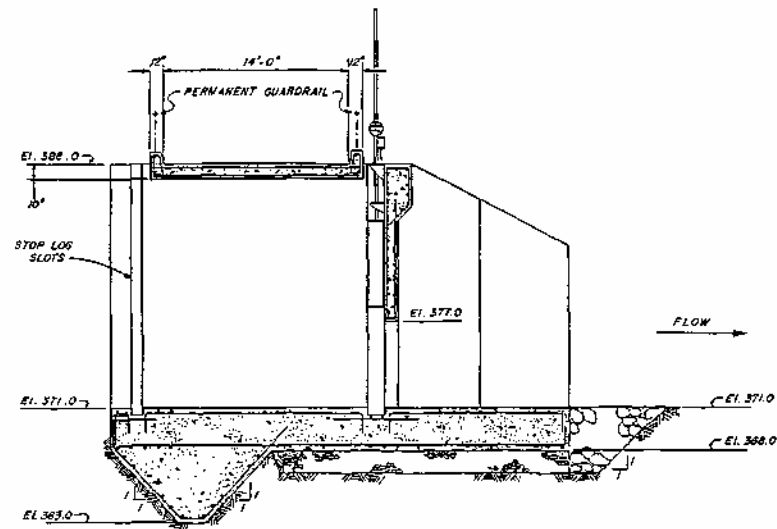
PROJECT NO. 2180			
BY THE CITY OF SANTA CLARA, CALIFORNIA			
BLACK BUTTE HYDROELECTRIC PROJECT			
REREGULATION DAM			
DRAWN:	SCALE: AS SHOWN	DATE: MAR. 1983	
CHECKED:		DATE: NO. F-3-B	
RECOMMENDED: M.P.H.			



PLAN OF SOUTH CANAL OUTLET
STRUCTURE (E1. 388.0)
Scale: 1/4" = 1'-0"



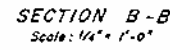
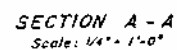
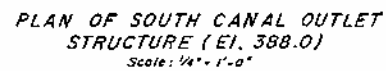
SECTION A - A
Scale: 1/4" = 1'-0"



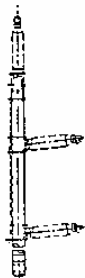
SECTION B - B
Scale: 1/4" = 1'-0"

AS BUILT
EXHIBIT F

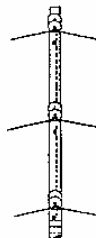
PROJECT NO. 3180		
BY THE CITY OF SANTA OLARA, CALIFORNIA		
BLACK BUTTS HYDROELECTRIC PROJECT		
SOUTH CANAL INTAKE STRUCTURE		
DRAWN:	SCALE: AS SHOWN	DATE: MAR 1989
CHECKED:	DWG. NO. F-4	
RECOMMENDED: M.H.		



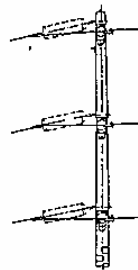
PROJECT NO. 3180		
BY THE CITY OF SANTA CLARA, CALIFORNIA		
BLACK BUTTE HYDROELECTRIC PROJECT		
SOUTH CANAL INTAKE STRUCTURE		
DRAWN:	SCALE: AS SHOWN	DATE: MAR 1982
CHECKED:		DWG NO. F-4
RECOMMENDED: MRM		



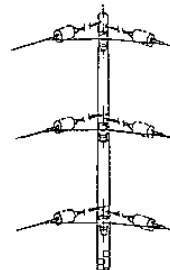
TYPE 1-V-P
TYPICAL VERTICAL, POST
INSULATOR CONSTRUCTION



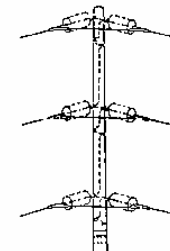
TYPE SV-1
TYPICAL VERTICAL,
SUSPENSION INSULATOR
CONSTRUCTION



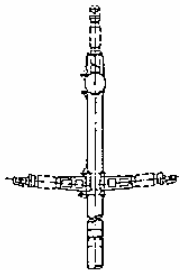
TYPE SV-P1
TYPICAL VERTICAL
CONSTRUCTION, SUSPENSION
TO POST INSULATORS



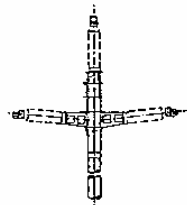
TYPE DV-P1
TYPICAL VERTICAL
CONSTRUCTION FOR
LINE ANGLE



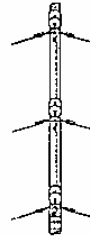
TYPE DV
TYPICAL VERTICAL
CONSTRUCTION FOR
LINE ANGLE, SUSPENSION
INSULATORS ONLY



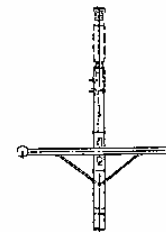
TYPE 1W-DE
TYPICAL TRIANGULAR POST
INSULATOR CONFIGURATION
WITH DEAD END



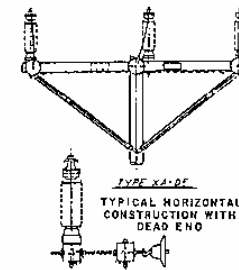
TYPE TM
TYPICAL TANGENT POLE
WITH POST INSULATION



TYPE SV-2
TYPICAL VERTICAL POLE



TYPE TPD
TYPICAL ARM AND POLE
TOP CONSTRUCTION



TYPE SA-DE
TYPICAL HORIZONTAL
CONSTRUCTION WITH
DEAD END

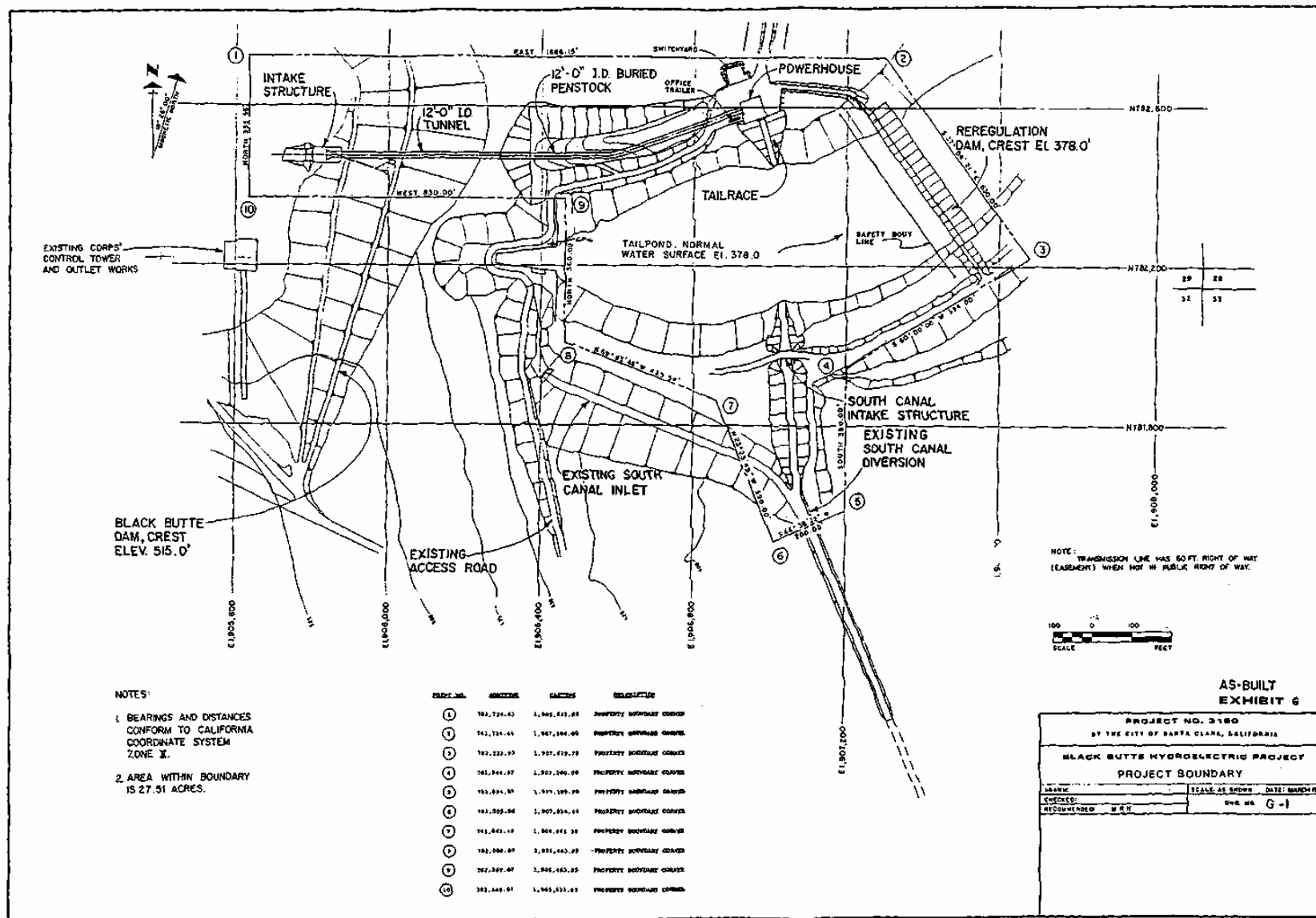
SECTION 4

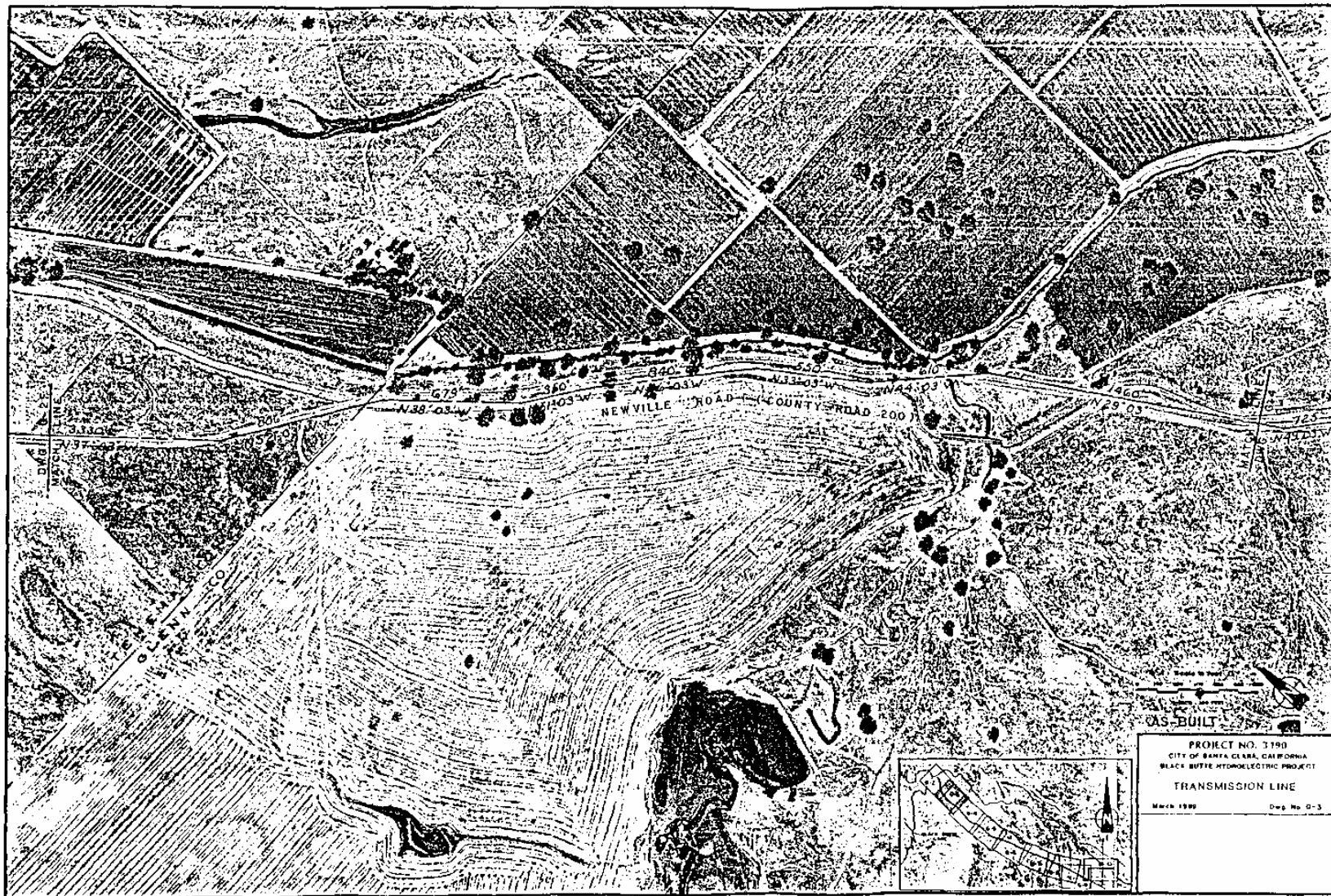
NOTE:
CONDUCTOR SPACING
60" MINIMUM, PHASE
TO PHASE.

TYPICAL POLE CONFIGURATIONS (60KV TRANSMISSION LINE)

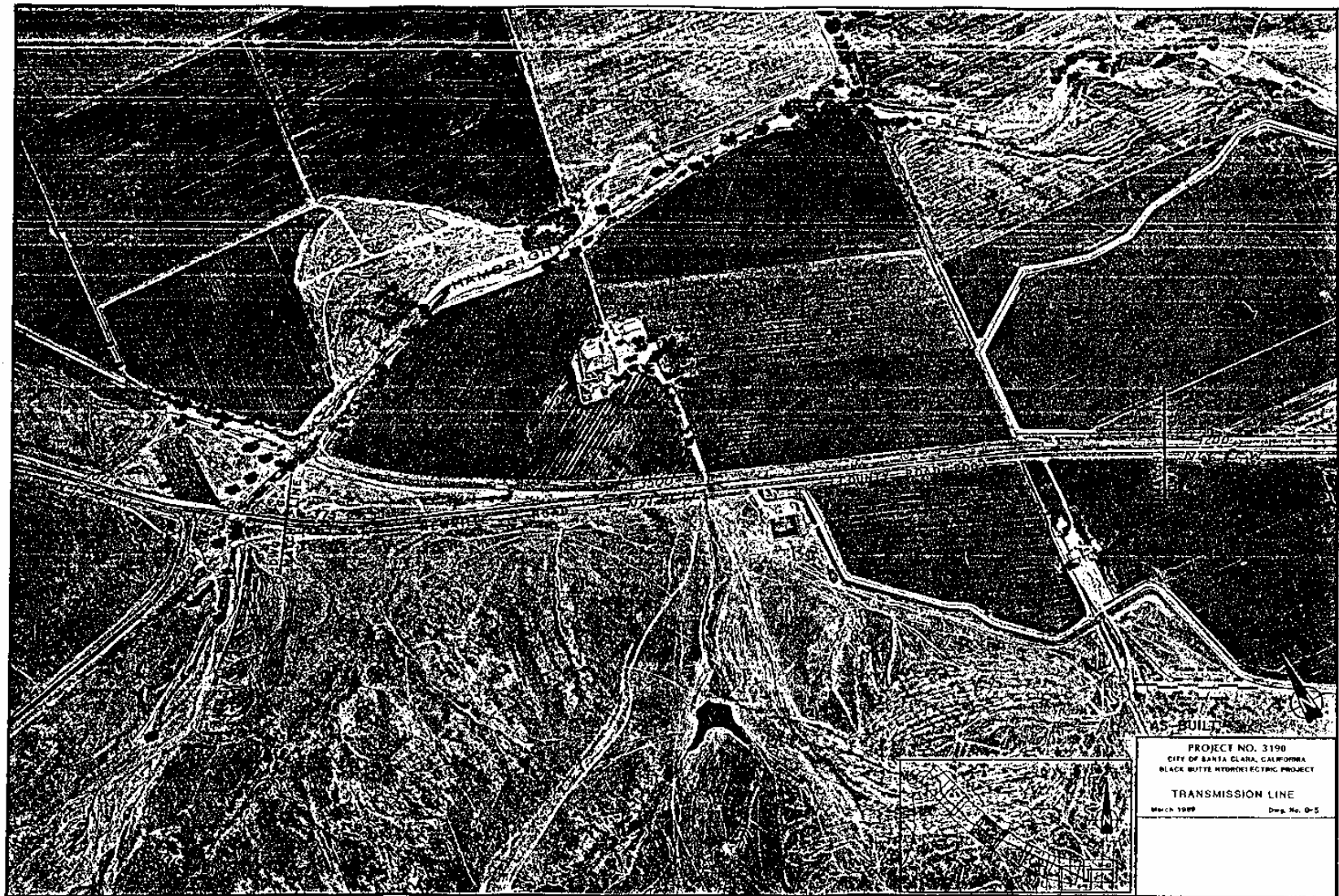
EXHIBIT F

PROJECT NO. 3120		
BY THE CITY OF SANTA CLARA, CALIFORNIA		
BLACK BUTTE HYDROELECTRIC PROJECT		
TRANSMISSION LINE CONFIGURATION		
DRAWN:	SCALE: AS SHOWN	DATE: MAR 69
CHECKED:		
RECOMMENDED: W.H.	OWN NO.	F-5

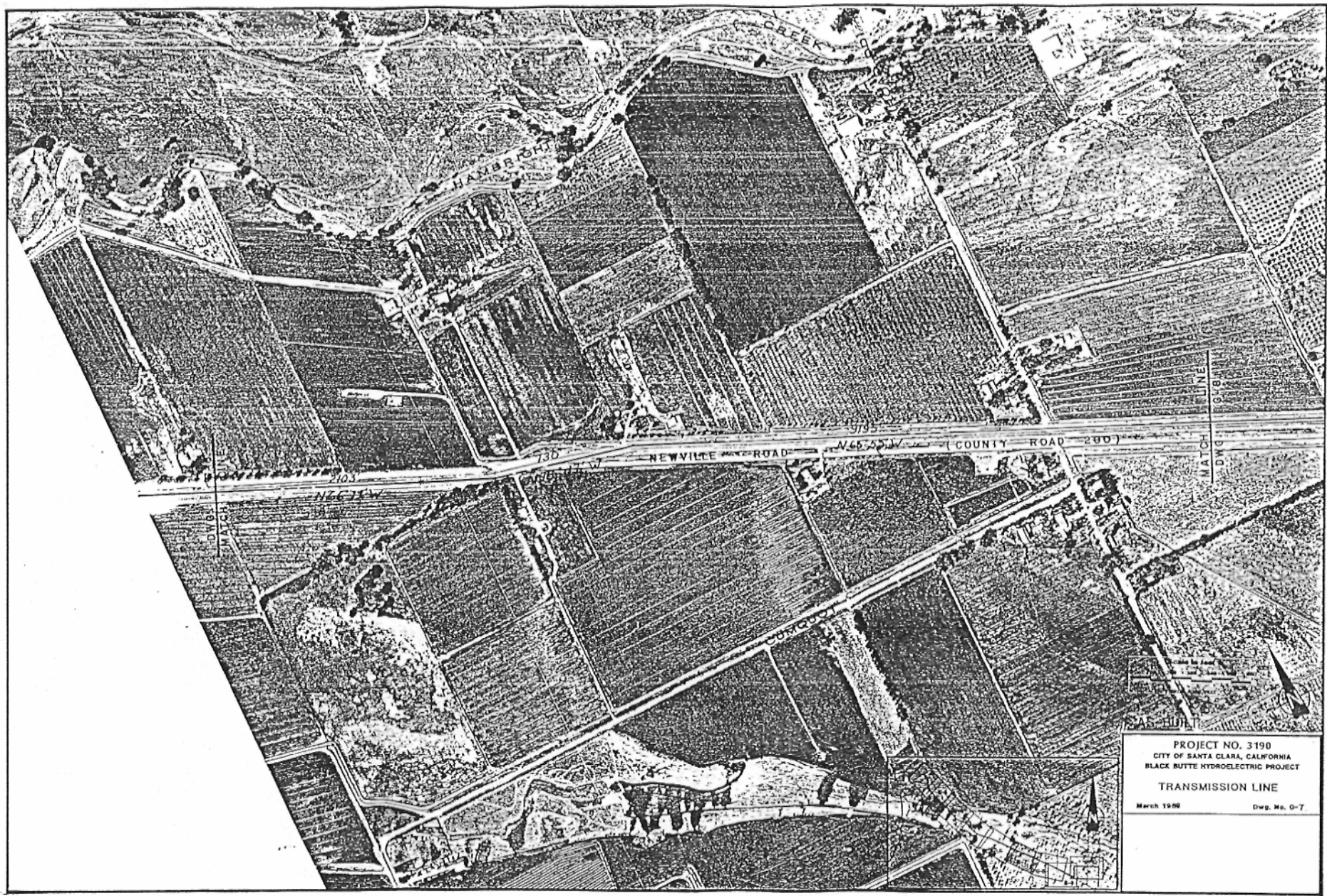




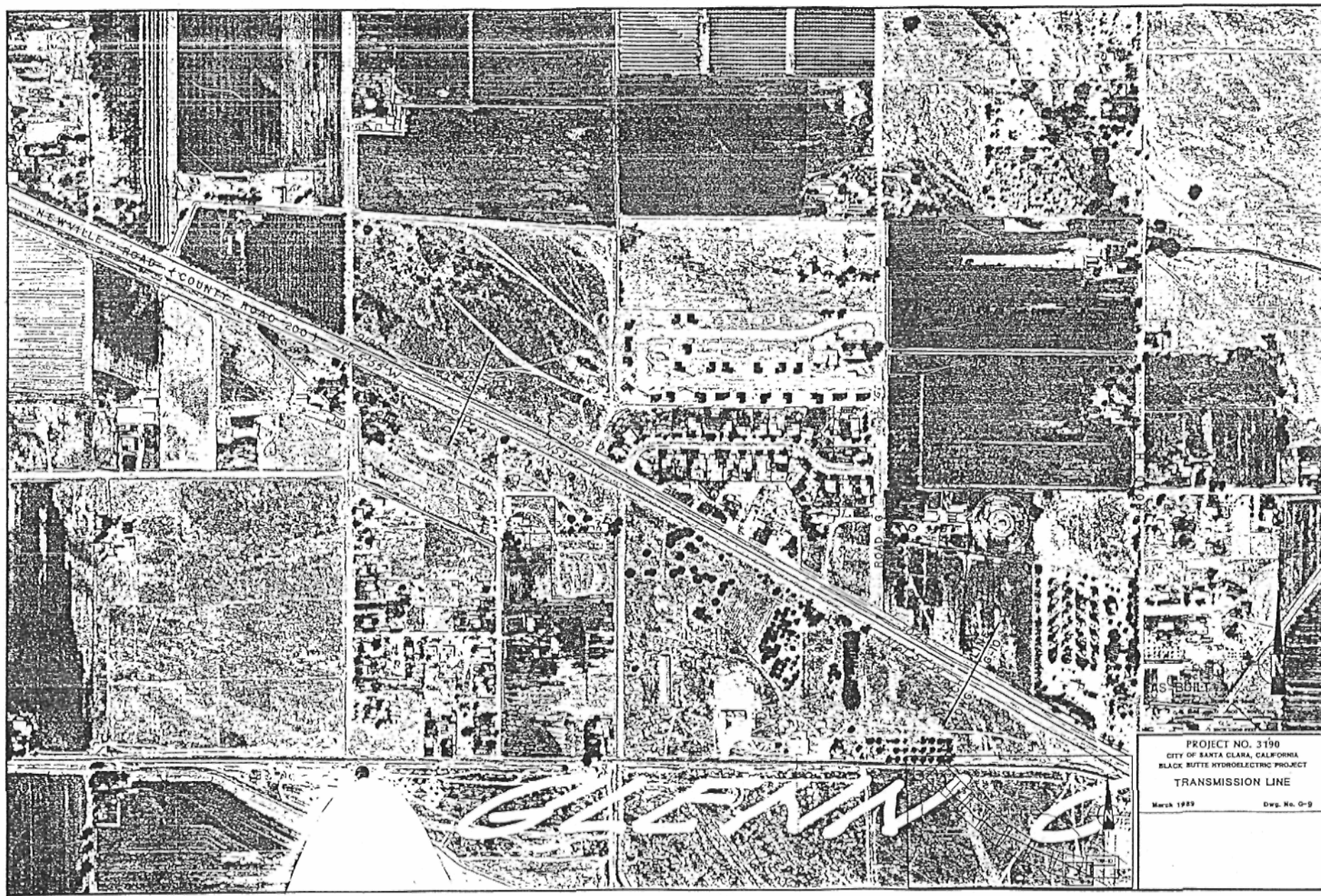


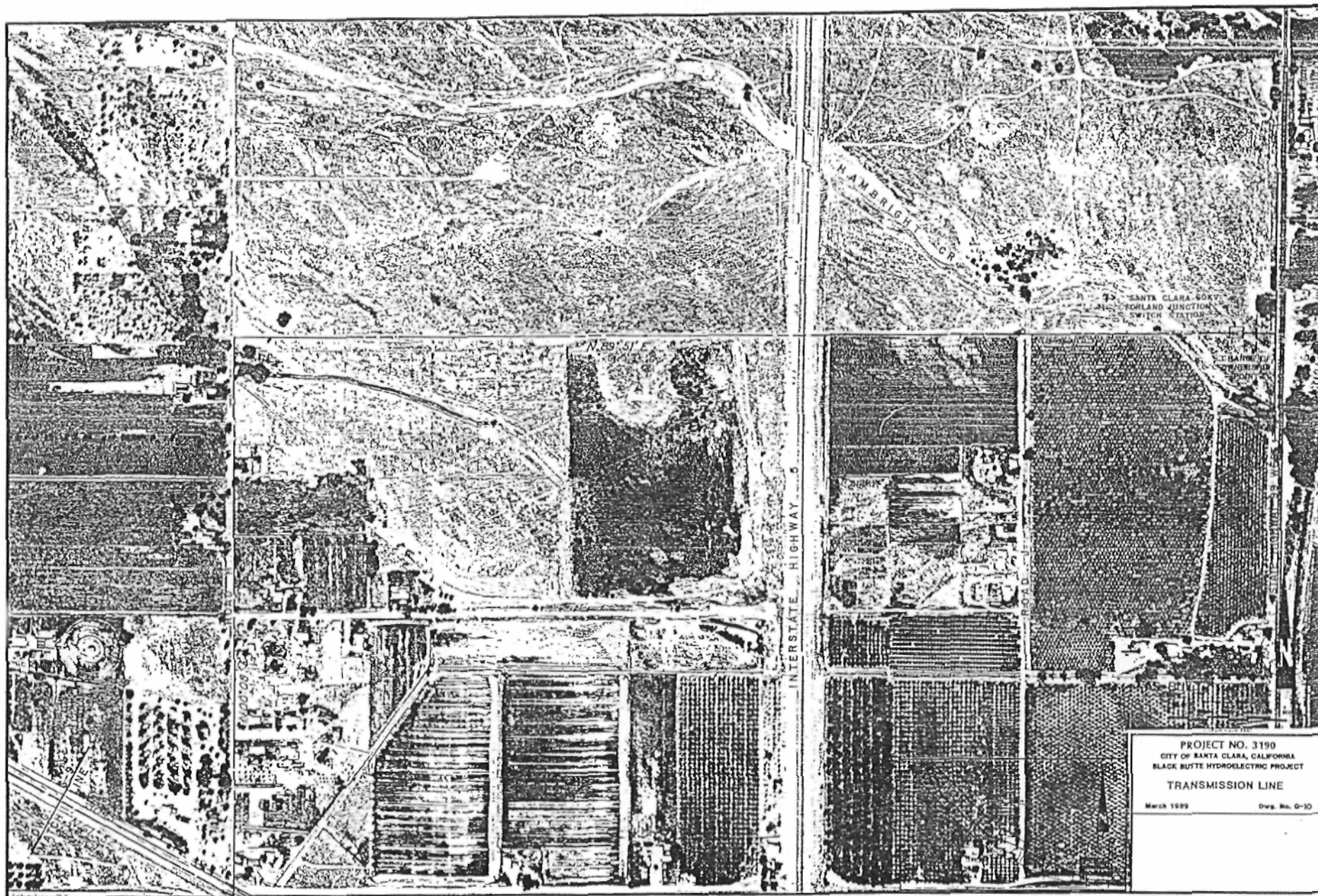












PROJECT NO. 3190
CITY OF SANTA CLARA, CALIFORNIA
BLACK BUTTE HYDROELECTRIC PROJECT
TRANSMISSION LINE
March 1989
Draw. No. 0-10